

SEQUENCE LISTING

<110> Københavns Universitet
 Louise Jørgensen
 5 Pamela Magistrado
 Thomas Lavstsen
 Ali Salanti
 Morten A. Nielsen
 Trine Staalsø
 10 Lars Hviid
 Thor Theander
 Anja Jensen

<120> COMPOUNDS USEFUL IN THE DIAGNOSIS AND
 15 TREATMENT OF MALARIA

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		305				310					315					320	
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					325					330					335		
	Cys	Arg	Asp	Asp	Ser	Lys	Lys	Leu	Tyr	Cys	Ser	His	Asn	Gly	Tyr	Asp	
30				340					345					350			
	Cys	Thr	Lys	Thr	Ile	Arg	Asn	Lys	Asp	Ile	Leu	Ser	Asp	Asn	Pro	Lys	
			355					360					365				
	Cys	Thr	Gly	Cys	Ser	Val	Lys	Cys	Lys	Val	Tyr	Glu	Leu	Trp	Leu	Arg	
		370					375					380					
35	Asn	Gln	Arg	Asn	Glu	Phe	Glu	Lys	Gln	Lys	Lys	Lys	Tyr	Tyr	Lys	Glu	
		385				390					395					400	
	Ile	Gln	Thr	Tyr	Thr	Ser	Lys	Asp	Ala	Lys	Thr	Asp	Ser	Asn	Ile	Asn	
					405					410					415		
	Asn	Glu	Tyr	Tyr	Lys	Glu	Phe	Tyr	Asp	Lys	Leu	Lys	Asn	Glu	Gly	Tyr	
40				420					425					430			
	Glu	Thr	Leu	Asn	Lys	Phe	Ile	Lys	Leu	Leu	Asn	Glu	Gly	Arg	Tyr	Cys	
			435					440					445				
	Lys	Glu	Lys	Ile	Ser	Gly	Glu	Arg	Asn	Ile	Asp	Phe	Thr	Met	Thr	Gly	
		450					455					460					
45	Asp	Lys	Asp	Ala	Phe	Tyr	Arg	Ser	Asp	Tyr	Cys	Gln	Ile	Cys	Pro	Glu	
		465				470					475					480	
	Cys	Gly	Val	Gln	Cys	Ser	Gly	Thr	Thr	Cys	Thr	Pro	Lys	Lys	Val	Ile	
					485					490					495		
	His	Pro	Asn	Cys	Lys	Asp	Lys	Glu	Thr	Tyr	Glu	Pro	Gly	Asp	Ala	Lys	
50				500					505					510			
	Thr	Thr	Asp	Ile	Thr	Val	Leu	Tyr	Ser	Gly	Asp	Glu	Glu	Gly	Asp	Ile	
			515					520					525				
	Ala	Gln	Lys	Leu	Gln	Asp	Phe	Cys	Asn	Asp	Lys	Asn	Lys	Glu	Asn	Asp	
		530					535					540					
55	Glu	Asn	Tyr	Glu	Lys	Trp	Gln	Cys	Tyr	Tyr	Lys	Ser	Ser	Glu	Ile	Asn	
		545				550					555					560	
	Lys	Cys	Gln	Met	Thr	Pro	Ser	Ser	His	Lys	Val	Pro	Lys	His	Gly	Tyr	
					565					570					575		
	Ile	Met	Ser	Phe	Tyr	Ala	Phe	Phe	Asp	Leu	Trp	Val	Lys	Asn	Leu	Leu	

				580					585					590			
	Ile	Asp	Ser	Ile	Asn	Trp	Lys	Asn	Asp	Leu	Thr	Asn	Cys	Ile	Asn	Asn	
			595					600					605				
5	Thr	Asn	Val	Thr	Asp	Cys	Lys	Asn	Asp	Cys	Asn	Thr	Asn	Cys	Lys	Cys	
		610					615					620					
	Phe	Glu	Asn	Trp	Ala	Lys	Thr	Lys	Glu	Asn	Glu	Trp	Lys	Lys	Val	Lys	
	625					630				635					640		
	Thr	Ile	Tyr	Lys	Asn	Glu	Asn	Gly	Asn	Thr	Asn	Asn	Tyr	Tyr	Lys	Lys	
					645				650					655			
10	Leu	Asn	Asn	His	Phe	Gln	Gly	Tyr	Phe	Phe	His	Val	Met	Lys	Glu	Leu	
				660					665					670			
	Asn	Lys	Glu	Glu	Lys	Trp	Tyr	Lys	Leu	Met	Glu	Asp	Leu	Lys	Glu	Lys	
			675					680					685				
15	Ile	Asp	Ser	Ser	Asn	Leu	Lys	Asn	Gly	Thr	Lys	Asp	Ser	Glu	Gly	Ala	
		690					695					700					
	Ile	Lys	Val	Leu	Phe	Asp	His	Leu	Lys	Asp	Ile	Ala	Glu	Arg	Cys	Ile	
	705					710					715				720		
	Asp	Asn	Asn	Ser	Lys	Asp	Ser	Cys	Pro	Pro	Ser	Val	Asp	Thr	Lys	Thr	
					725				730					735			
20	Asn	Pro	Cys	Ala	Lys	Pro	Pro	Gly	Ser	Lys	Pro	Thr	Lys	Ser	Val	Lys	
				740					745					750			
	Gln	Leu	Ala	Glu	His	Met	Gln	Gln	Lys	Ala	Gln	Lys	Leu	Leu	Gly	Thr	
			755					760					765				
	Arg	Gly	Gly	Glu	Ser	Lys	Leu	Lys	Gly	Asp	Ala	Thr	Arg	Gly	Thr	Tyr	
25		770					775					780					
	Asn	Leu	Gly	Gly	Gln	Gly	Asn	Thr	Leu	Asn	Gly	Asp	Ile	Cys	Lys	Ile	
	785					790					795				800		
	Thr	Lys	Asn	His	Thr	Asn	Asp	Ser	Arg	Pro	Asn	Gly	Glu	Pro	Cys	Thr	
					805				810					815			
30	Gly	Lys	Asp	Lys	Val	Lys	Asn	Gly	Phe	Arg	Leu	Lys	Ile	Gly	Thr	Pro	
				820					825					830			
	Trp	Thr	Asn	Ile	Val	Gln	Lys	Lys	Lys	Lys	Ser	Tyr	Lys	Asp	Phe		
		835						840					845				
	Tyr	Leu	Pro	Pro	Arg	Arg	Gln	His	Met	Cys	Thr	Ser	Asn	Leu	Glu	Asn	
35		850					855				860						
	Leu	Ser	Thr	Ser	Ser	Lys	Gly	Leu	Ser	Asn	Gly	Ser	Phe	Ala	Ser	His	
	865					870					875				880		
	Ser	Leu	Leu	Gly	Asp	Val	Leu	Leu	Ala	Ala	Lys	Phe	Glu	Ala	Gln	Lys	
					885				890					895			
40	Ile	Ile	Leu	Val	Tyr	Lys	Asn	Lys	Asn	Asn	Ile	Asn	Ile	Arg	Lys	Arg	
				900					905					910			
	Ile	Thr	Asp	Pro	Asn	Asp	Gln	Ala	Thr	Val	Cys	Arg	Ala	Ile	Arg	Tyr	
		915						920					925				
	Ser	Phe	Ala	Asp	Leu	Gly	Asp	Ile	Ile	Arg	Gly	Lys	Asp	Met	Trp	Asn	
45		930					935					940					
	Ile	Asn	Ser	Asp	Ala	Lys	Asp	Leu	Gln	Asp	Arg	Leu	Glu	Lys	Ile	Phe	
	945					950					955				960		
	Lys	Thr	Ile	Asn	Glu	Lys	Leu	Pro	Asn	Glu	Ile	Gln	Lys	Arg	Tyr	Thr	
					965				970					975			
50	Asn	Arg	Glu	Asn	Lys	His	Leu	Asp	Leu	Arg	Ser	Asp	Trp	Trp	Glu	Ala	
				980					985					990			
	Asn	Arg	His	Gln	Val	Trp	Arg	Ala	Met	Lys	Cys	Ala	Thr	Lys	Gly	Ile	
		995						1000					1005				
	Ser	Asn	Asn	Asn	Cys	Asn	Gly	Ile	Pro	Ile	Glu	Asp	Tyr	Ile	Pro	Gln	
55		1010					1015				1020						
	Arg	Leu	Arg	Trp	Met	Thr	Glu	Trp	Ala	Glu	Trp	Tyr	Cys	Lys	Lys	Gln	
	1025					1030					1035				1040		
	Ser	Gln	Glu	Tyr	Glu	Lys	Leu	Glu	Glu	Lys	Cys	Gly	Met	Cys	Thr	Gly	
					1045				1050					1055			

Lys Gly Gln Gly Asp Gly Lys Asp Cys Thr Gln Lys Asp Lys Glu Cys
 1060 1065 1070
 Ser Pro Cys Lys Lys Ala Cys Asp Ala Tyr Lys Lys Glu Ile Glu Lys
 1075 1080 1085
 5 Trp Glu Lys Gln Trp Lys Thr Val Ser Ala Ile Tyr Gln Ile Leu Tyr
 1090 1095 1100
 Ala Lys Ala Arg Ile Val Ala Ser Asn Gly Gly Pro Gly Tyr Tyr Asn
 1105 1110 1115 1120
 Thr Glu Val Gln Lys Lys Asp Arg Ser Val Tyr Asp Phe Leu Tyr Glu
 10 1125 1130 1135
 Leu His Leu Gln Asn Gly Gly Lys Lys Gly Pro Pro Pro Ala Thr His
 1140 1145 1150
 Pro Tyr Lys Ser Val Asn Thr Arg Asp Lys Arg Asp Ala Thr Asp Asp
 1155 1160 1165
 15 Thr Thr Pro Thr Val Tyr Ser Thr Ala Ala Gly Tyr Val His Gln Glu
 1170 1175 1180
 Ala His Ile Gly Asp Cys Lys Glu Gln His Val Phe Cys Asp Asn Asn
 1185 1190 1195 1200
 Gly Asn Lys Glu Lys Tyr Ala Phe Lys Asn Pro Pro Asn Val Tyr Val
 20 1205 1210 1215
 Glu Ala Cys Lys Cys Met Thr Arg Glu Ala Pro Pro Pro Pro Thr Thr
 1220 1225 1230
 Pro Ser Thr Pro Asn Pro Cys Ala Glu Thr Gly Gly Val His Thr Ile
 1235 1240 1245
 25 Lys Thr Val Thr Asp Val Ala Lys Ile Leu Gln Gly Glu Ala Asn Glu
 1250 1255 1260
 Thr Met Leu Lys Asn Ser Ser Asn Gly Asn Asp Lys Asp Glu Ser Lys
 1265 1270 1275 1280
 Leu Lys Gly Lys Ala Glu Glu Gly Asp Tyr Ser Arg Gly Gly Thr Pro
 30 1285 1290 1295
 Ser Asp Phe Asn Asn Asn Leu Cys Gly Ile Thr Gln Lys His Ser Asn
 1300 1305 1310
 Ala His Asn Asp Ser Gln Gln Pro Cys Tyr Gly Lys Asp Gln Lys Arg
 1315 1320 1325
 35 Phe Asn Val Gly Thr Glu Trp Ser Phe Lys Asp Asn His Arg Lys Arg
 1330 1335 1340
 Thr His Pro Glu Ala Tyr Met Pro Pro Arg Arg Glu His Ile Cys Thr
 1345 1350 1355 1360
 Ser Asn Leu Glu Tyr Leu Ile His Lys Arg Lys Lys Pro Ile Ile Glu
 40 1365 1370 1375
 Gly Asp Pro Asn Lys Ile Ile His Ser Leu Leu Gly Asp Val Leu Leu
 1380 1385 1390
 Ala Ala Lys Tyr Glu Ala Glu Asn Ile Lys Lys Leu Tyr Glu Glu Asn
 1395 1400 1405
 45 Asn Asn Arg Lys Asp Gln Glu Gly Ile Cys Arg Ala Met Lys Tyr Ser
 1410 1415 1420
 Phe Ala Asp Ile Gly Asp Ile Ile Arg Gly Lys Asp Met Trp Ile Glu
 1425 1430 1435 1440
 Asn Asn Asp Ala Lys Arg Leu Gln Thr Asn Leu Lys Glu Ile Phe Thr
 50 1445 1450 1455
 Lys Ile Lys Glu Lys Thr Gly Gly Thr Thr Tyr Asn Glu Asp Asn Asp
 1460 1465 1470
 Pro Tyr Leu Lys Leu Arg Ala Asp Trp Trp Glu Ala Asn Arg Ala Lys
 1475 1480 1485
 55 Val Trp Lys Ala Met Lys Cys Lys Thr Asn Gly Val Asp Ile Thr Cys
 1490 1495 1500
 Asp Ser Asp His Thr Pro Leu Asp Asp Tyr Ile Pro Gln Arg Leu Arg
 1505 1510 1515 1520
 Trp Met Thr Glu Trp Ala Glu Trp Tyr Cys Lys Ala Gln Ser Gln Glu

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				1525					1530				1535
	Tyr	Lys	Lys	Leu	Glu	Glu	Lys	Cys	Ser	Gln	Cys	Lys	Ser
				1540					1545				1550
	Gly	Gly	Asn	Glu	Cys	Tyr	Arg	Glu	Thr	Lys	Glu	Cys	Asn
5			1555					1560				1565	
	Gln	Ala	Cys	Glu	Glu	Tyr	Lys	Arg	Lys	Ile	Lys	Thr	Trp
		1570						1575				1580	
	Trp	Lys	Val	Ile	Ser	Asn	Lys	Tyr	Glu	Asp	Leu	Tyr	Lys
	1585					1590				1595			1600
10	Asn	Pro	Thr	Asn	Ala	Val	Leu	Lys	Asp	Asn	Lys	Asp	Glu
				1605						1610			1615
	Asn	Val	Ile	Asp	Phe	Leu	Thr	Gln	Leu	Gln	Lys	Ala	Asn
			1620							1625			1630
	Lys	Thr	Gly	Val	His	Thr	Val	Tyr	Ser	Thr	Ala	Ala	Gly
15			1635					1640					1645
	Gln	Glu	Ala	Arg	Thr	Arg	Glu	Cys	Gln	Glu	Gln	Arg	Glu
	1650						1655					1660	
	Lys	Lys	Asn	Gly	Ile	Asp	Asn	Thr	Ser	Tyr	Ala	Phe	Lys
	1665					1670				1675			1680
20	His	Gly	Tyr	Ala	Thr	Ala	Cys	Asp	Cys	Ile	Asn	Arg	Ser
				1685						1690			1695
	Glu	Pro	Lys	Lys	Lys	Glu	Glu	Asn	Val	Glu	Ser	Ala	Cys
			1700						1705				1710
	Glu	Glu	Val	Leu	Ser	Lys	Pro	Arg	Asp	Lys	Thr	Thr	Gly
25			1715					1720					1725
	His	Cys	Asn	Pro	Lys	Tyr	Tyr	Pro	Arg	Lys	Glu	Asn	Tyr
	1730						1735				1740		
	Asn	Cys	Thr	Pro	Gly	Gln	Phe	Lys	Ser	Gly	His	Ala	Gly
	1745				1750					1755			1760
30	Pro	Pro	Arg	Arg	Ile	Lys	Leu	Cys	Val	Ile	Asn	Leu	Gln
				1765						1770			1775
	Glu	Lys	Lys	Ser	Pro	Glu	Glu	Leu	Arg	Lys	Ala	Phe	Ile
			1780						1785				1790
	Ala	Ile	Glu	Thr	Tyr	Trp	Leu	Trp	Gln	Lys	Tyr	Lys	Lys
35			1795					1800					1805
	Gly	Gly	Val	Ala	Gln	Ala	Lys	Leu	Asn	Ser	Gly	Thr	Ile
	1810						1815					1820	
	Phe	Lys	Arg	Gln	Met	Phe	Tyr	Thr	Phe	Gly	Asp	Tyr	Arg
	1825				1830					1835			1840
40	Leu	Asp	Thr	Asp	Ile	Ser	Ser	Lys	Ala	Asp	Thr	Ser	Thr
				1845						1850			1855
	Lys	Val	Lys	Ile	Asn	Ile	Asp	Ser	Val	Phe	Gln	Lys	Ile
			1860						1865				1870
	Asn	Val	Glu	Gln	Arg	Lys	Pro	Trp	Trp	Gly	Lys	Asn	Ala
45			1875					1880					1885
	Trp	Asp	Gly	Met	Leu	Cys	Ala	Leu	Ser	Tyr	Asn	Thr	Thr
	1890						1895					1900	
	Met	Asp	Tyr	Asn	Ala	His	Thr	Lys	Leu	Asn	Pro	Thr	Tyr
	1905				1910					1915			1920
50	Ala	Ile	Lys	Ser	Glu	Leu	Glu	Asp	Phe	Val	Asn	Arg	Pro
				1925						1930			1935
	Arg	Trp	Phe	Thr	Glu	Trp	Ser	Asp	Glu	Phe	Cys	Thr	Glu
			1940						1945				1950
	Lys	Ile	Lys	Glu	Leu	Glu	Thr	Lys	Cys	Asn	Asp	Cys	Thr
55			1955					1960					1965
	Ser	Gly	Thr	Ser	Asp	Ala	Thr	Gly	Asn	Lys	Thr	Cys	Asp
	1970						1975					1980	
	Lys	Cys	Asp	Glu	Cys	Lys	Arg	Ala	Cys	Thr	Thr	Tyr	Lys
	1985					1990					1995		2000

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	Lys	Asn	Trp	Lys	Thr	Gln	Tyr	Lys	Thr	Gln	Ser	Lys	Lys	Tyr	Phe	Asp	
					2005					2010					2015		
	Asp	Lys	Arg	Lys	Glu	Leu	Tyr	Lys	Ser	Ile	Asp	Asp	Val	Ala	Ser	Ser	
				2020					2025					2030			
5	Thr	Gln	Ala	Tyr	Gln	Tyr	Leu	His	Ala	Gln	Leu	Lys	Lys	Leu	Cys	Gly	
			2035					2040					2045				
	Asn	Ala	Asp	Cys	Lys	Cys	Met	Asp	Gly	Glu	Ser	Lys	Glu	Thr	Thr	Gly	
		2050					2055					2060					
	Gln	Pro	Asp	Asn	Ser	His	Asp	Ser	His	Met	Pro	Ala	Ser	Leu	Asp	Asp	
10	2065					2070					2075				2080		
	Glu	Pro	Glu	Glu	Val	Asn	Gly	Lys	Cys	Asn	Cys	Lys	Val	Lys	His	Arg	
					2085					2090					2095		
	Pro	Gln	Pro	Pro	Leu	Ala	Leu	Pro	Pro	Pro	Ala	Pro	Ser	Gly	Pro	Pro	
				2100					2105						2110		
15	Ala	Glu	Asp	Gln	Ile	Glu	His	Asp	Asn	Arg	Gly	Arg	Ser	Glu	Arg	Gly	
			2115					2120					2125				
	Asp	Gln	Gly	Pro	Leu	Pro	Ala	Arg	Pro	Pro	Pro	Pro	Pro	Gln	Ala	Ala	
		2130					2135					2140					
	Gln	Pro	Pro	Gln	Pro	Lys	Pro	Lys	Arg	Thr	Gly	Glu	Gly	Leu	Gly	Arg	
20	2145					2150					2155					2160	
	Asn	Leu	Pro	Pro	Ala	Asp	Arg	Asn	Thr	Asn	Leu	Ser	Asp	Ser	Glu	Glu	
					2165					2170					2175		
	Glu	Asp	Asp	Glu	Asp	Asp	Asp	Glu	Val	Gln	Glu	Glu	Glu	Glu	Thr	Pro	
				2180					2185					2190			
25	Pro	Ser	Glu	Ala	Glu	Glu	Gly	Glu	Gly	His	Val	Glu	Thr	Glu	Glu	Glu	
			2195					2200					2205				
	Thr	Lys	Pro	Val	Lys	Glu	Lys	Thr	Glu	Gly	Ala	Gly	Ala	Thr	Glu	Val	
		2210					2215					2220					
	Thr	Lys	Gln	Gly	Ser	Ala	Pro	Thr	Ala	Thr	Thr	Pro	Thr	Val	Glu	Asp	
30	2225					2230					2235					2240	
	Ile	Cys	Ala	Thr	Val	Ala	Lys	Ala	Leu	Lys	Gly	Asp	Lys	Ser	Leu	Asn	
					2245					2250					2255		
	Ala	Ala	Cys	Ala	Leu	Lys	Tyr	Gly	Lys	Asn	Asn	Ser	Arg	Leu	Gly	Trp	
				2260					2265					2270			
35	Lys	Cys	Ile	Pro	Thr	Ser	Gly	Asp	Lys	Thr	Asp	Thr	Ser	Glu	Asn	Gly	
			2275					2280					2285				
	Ala	Pro	Arg	Arg	Ala	Arg	Ser	Ala	His	Gly	Gly	Lys	Ser	Asp	Ser	Glu	
		2290					2295					2300					
	Lys	Gly	Ser	Ile	Cys	Val	Pro	Pro	Arg	Arg	Arg	Arg	Leu	Tyr	Ile	Lys	
40	2305					2310					2315					2320	
	Lys	Ile	Val	Asp	Trp	Ala	Glu	Ser	Gln	Ser	Lys	Thr	Val	Thr	Ser	Val	
					2325					2330					2335		
	Asn	Gly	Asp	Gly	Asn	Gly	Ser	Gln	Glu	Val	Val	Ser	Val	Asn	Gly	Ala	
				2340					2345					2350			
45	Ser	Glu	Ser	Gly	Gly	Ser	Gly	Ser	Gly	Thr	Glu	Ser	Gln	Ala	Ser	Asp	
			2355					2360					2365				
	Val	Ser	Gln	Gly	Asn	Gly	Ala	Ser	Thr	Ser	Pro	Gln	Val	Ala	Leu	Leu	
		2370					2375					2380					
	His	Ala	Phe	Val	Lys	Ser	Ala	Ala	Ile	Glu	Thr	Phe	Phe	Ala	Trp	His	
50	2385					2390					2395					2400	
	Lys	Tyr	Lys	Val	Asp	Lys	Glu	Ile	Glu	Glu	Lys	Glu	Lys	Gln	Ala	Ala	
					2405					2410					2415		
	Gln	Asn	His	Leu	Val	Gln	Arg	Lys	Thr	Ser	Glu	Asn	Pro	Gln	Lys	Lys	
				2420					2425					2430			
55	Leu	Glu	Gly	Gly	Glu	Ile	Pro	Glu	Asp	Phe	Lys	Arg	Gln	Met	Phe	Tyr	
			2435					2440					2445				
	Thr	Leu	Gly	Asp	Tyr	Arg	Asp	Ile	Leu	Val	Gly	Asp	Lys	Thr	Met	Ile	
		2450					2455					2460					
	Glu	Ala	Leu	Glu	Lys	Ser	Gly	Asp	Thr	Lys	Ile	Glu	Asp	Ile	Ser	Glu	

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	2465		2470		2475		2480
	Lys Ile Pro Lys	Ile Leu Asp Gly Glu	Asn Asn Lys Ala Ala	Gly Gly			
		2485		2490		2495	
5	Gly Pro Lys Gln	Pro Asn Ser Gly Lys	Thr Pro Gln Glu	Trp Trp Lys			
		2500		2505		2510	
	Glu Asn Ala Lys	His Ile Trp His Gly	Met Ile Cys Ala	Leu Thr Tyr			
		2515		2520		2525	
	Asn Thr Asp Ser	Asn Gly Lys Asp	Lys Lys Ile Gln	Gln Val Lys	Ala		
		2530		2535		2540	
10	Thr Asp Asn Thr	Asp Leu Phe Gln Lys	Leu Lys Lys Asp	Asn Asp Tyr			
		2545		2550		2555	
	Glu Thr Val Ser	Phe Gly Ala Ser	Gly Thr Gly Ala	Lys Ser Asn	Asp		
		2565		2570		2575	
	Asp Thr Lys Leu	Lys Asn Phe Val	Val Arg Pro Thr	Tyr Phe Arg	Trp		
15		2580		2585		2590	
	Leu Glu Glu Trp	Gly Glu Glu Phe	Cys Arg Lys Gln	Lys His Lys	Leu		
		2595		2600		2605	
	Tyr Ile Ile Lys	Lys Asp Cys Arg	Asp Asn Lys Phe	Cys Ser Gly	Asp		
		2610		2615		2620	
20	Gly Leu Arg Cys	Asp Glu Lys Val	Pro Asp Lys Lys	Asp Ile Phe	Lys		
		2625		2630		2635	
	His Phe Asp Cys	Pro Ser Cys Ala	Arg His Cys Arg	Ser Tyr Arg	Lys		
		2645		2650		2655	
	Trp Ile Glu Arg	Lys Lys Thr Glu	Tyr Glu Lys Gln	Glu Ser Ala	Tyr		
25		2660		2665		2670	
	Ser Lys Gln Lys	Ser Asn Tyr Val	Asn Gly Ser Asn	Gly Asp Gly	Gly		
		2675		2680		2685	
	Asn Asn Asn Asp	Lys Glu Phe Tyr	Thr Lys Leu Glu	Thr Cys Thr	Lys		
		2690		2695		2700	
30	Ala Thr Asn Phe	Leu Glu Ser Leu	Lys Gly Gln Cys	Ile Gly Asn	Asn		
		2705		2710		2715	
	Asn Gly Gly Thr	Asp Ile Lys Phe	Ser Asn Thr Asn	Ile Thr Phe	Gly		
		2725		2730		2735	
	Ser Ala Glu Asp	Cys Lys Pro Cys	Ser Glu Phe Lys	Val Asn Cys	Glu		
35		2740		2745		2750	
	Asn Gly Ser Cys	Gly Ser Ala Lys	Gln Lys Asp Cys	Pro Asn Asn	Thr		
		2755		2760		2765	
	Ile Thr Ser Gln	Asn Ile Lys Gly	Leu Thr Asp Gln	Val Asp Met	Arg		
		2770		2775		2780	
40	Val Ser Asp Asn	Thr Glu Ser Gly	Phe Glu Gly Asp	Leu Gly Ile	Cys		
		2785		2790		2795	
	Gln Gly Ala Gly	Ile Phe Lys Gly	Ile Arg Lys Asp	Glu Trp Lys	Cys		
		2805		2810		2815	
	Gly Asp Phe Cys	Gly Ile Asp Ile	Cys Thr Leu Glu	Lys Thr Asn	Asn		
45		2820		2825		2830	
	Gly Lys Glu Ser	Asp Lys Lys Tyr	Ile Ile Met Lys	Glu Phe Val	Lys		
		2835		2840		2845	
	Arg Trp Leu Glu	Tyr Phe Phe Glu	Asp Tyr Asn Arg	Ile Gln Lys	Lys		
		2850		2855		2860	
50	Leu Lys Thr Cys	Lys Glu Asn Gly	Lys Gly Ser Thr	Cys Ile Arg	Ser		
		2865		2870		2875	
	Cys Val Asp Glu	Trp Ile Lys Leu	Lys Lys Asp Glu	Trp Gln Lys	Ile		
		2885		2890		2895	
	Asn Ser Asn Tyr	Leu Asp Gln Asn	Thr Lys Glu Asn	Pro Glu Gly	Asn		
55		2900		2905		2910	
	Asn Leu Ser Ser	Phe Leu Glu Asp	Gly Pro Phe Lys	Asn Glu Val	Asp		
		2915		2920		2925	
	Lys Ala Ile Lys	Pro Cys Gly Asn	Leu Thr Asp Phe	Lys Lys Ser	Lys		
		2930		2935		2940	

	Lys	Cys	Asn	Gly	Thr	Ser	Arg	Ser	Gly	Asn	Ser	Glu	Glu	Ser	Thr	Lys	2945	2950	2955	2960
	Tyr	Asp	Gly	Val	Ile	Cys	Leu	Leu	Asp	Asn	Leu	Lys	Asn	Ile	Ile	Lys		2965	2970	2975
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    130          135          140
    Arg Asn Val Leu Asn Thr His Asp Leu Leu Gly Asn Val Leu Val Met
    145          150          155          160
35 Ala Lys Arg Glu Gly Glu Ser Ile Val Glu Lys His Pro Asn Arg Gly
        165          170          175
    Ser Ser Glu Val Cys Ile Ala Leu Ala Arg Ser Phe Ala Asp Ile Gly
        180          185          190
    Asp Ile Leu Arg Gly Lys Asp Met Tyr Val Gly Tyr Asp Glu Lys Glu
40          195          200          205
    Lys Asn Arg Arg Lys Gln Leu Glu Asn Lys Leu Lys Asp Ile Phe Asp
    210          215          220
    Asn Ile Tyr Lys Asp Leu Thr Lys Lys Lys Gly Arg Asn Gly Lys Lys
    225          230          235          240
45 Ser Ala Leu Gln Glu Arg Tyr Asn Asp Pro Lys Gly Asp Phe Phe Gln
        245          250          255
    Leu Arg Glu Asp Trp Trp Ala Leu Asn Arg Glu Asp Val Trp Lys Ala
        260          265          270
    Leu Thr Cys Ser Ala Asp Asp Ser Glu Asp Tyr Phe Ile Gln Ser Glu
50          275          280          285
    Gly Val Thr Lys Ser Phe Thr Asn Pro Lys Cys Gly His Gly Asp Asn
    290          295          300
    Glu Val Leu Thr Asn Leu Asp Tyr Val Pro Gln Phe Leu Arg Trp Phe
    305          310          315          320
55 Thr Glu Trp Ala Glu Glu Phe Cys Arg Ile Arg Lys Ile Lys Leu Gly
        325          330          335
    Lys Val Lys Asn Glu Cys Arg Gly Glu Thr Ser Gly Lys Arg Tyr Cys
    340          345          350
    Ser Gly Asp Gly Tyr Asp Cys Thr Lys Thr Asp Ile Ser Arg Asn Ile

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			355						360						365					
	Phe	Tyr	Met	Asp	Leu	Asp	Cys	Pro	Arg	Cys	Glu	Glu	Glu	Cys	Arg	Lys				
		370					375					380								
5	Tyr	Asp	Glu	Trp	Ile	Glu	Asn	Lys	Glu	Asn	Glu	Leu	Asp	Lys	Gln	Lys				
	385					390					395					400				
	Asn	Lys	Tyr	Thr	Lys	Glu	Ile	Glu	Lys	Leu	Lys	Asp	Asn	Ser	Lys	Ser				
					405					410					415					
	Asn	Tyr	Asp	Lys	Asn	Phe	Tyr	Leu	Thr	Leu	Thr	Lys	Lys	Tyr	Gly	Ser				
				420					425					430						
10	Ile	Asn	Leu	Phe	Leu	Asp	Thr	Leu	Lys	Glu	Gly	Ser	His	Cys	Ser	Tyr				
			435					440					445							
	Asn	Thr	Ile	Glu	Asp	Lys	Ile	Asp	Phe	Asn	Lys	Ala	Asn	Gln	Thr	Phe				
		450				455					460									
15	Thr	Ser	Ser	Lys	Phe	Cys	Gly	Ala	Cys	Pro	Phe	Tyr	Gly	Val	Lys	Cys				
	465					470					475					480				
	Asn	Trp	Lys	Thr	Cys	Thr	Glu	Val	Lys	Glu	Asn	Glu	Tyr	Lys	Lys	Lys				
					485					490					495					
	Asn	Lys	Val	Asp	Ser	Thr	His	Thr	Thr	Glu	Gln	Pro	Thr	Ala	Ile	Asp				
			500						505					510						
20	Val	Leu	Val	Thr	His	Ile	Arg	Gly	Thr	Asn	Ile	Pro	Glu	Asp	Leu	Lys				
			515					520					525							
	Asp	Cys	Lys	Lys	Tyr	Gly	Leu	Phe	Lys	Gly	Met	Arg	Lys	Gln	Ala	Trp				
		530				535					540									
25	Lys	Cys	Gln	Tyr	Ile	Asn	Pro	Tyr	Asp	Glu	Cys	Lys	Leu	Ser	Pro	Phe				
	545					550					555					560				
	Val	Lys	Asp	Ile	Asp	Val	Asp	Asp	Arg	Ile	Leu	Phe	Lys	Val	Leu	Phe				
					565				570						575					
	Glu	Arg	Trp	Leu	Lys	Tyr	Phe	Ile	Gln	Asp	Phe	Asn	Asn	Val	Lys	Asp				
				580					585					590						
30	Lys	Ile	Asn	Arg	Cys	Thr	Lys	Phe	Glu	Lys	Gly	Lys	Asp	Asn	Thr	Cys				
			595					600					605							
	Ile	Lys	Gly	Cys	Lys	His	Lys	Cys	Glu	Cys	Val	Glu	Lys	Trp	Ile	Lys				
		610				615						620								
35	Ile	Lys	Glu	Ala	Glu	Trp	Lys	Lys	Ile	Asn	Gln	His	Tyr	Asn	Gln	Gln				
	625					630					635					640				
	Lys	Lys	His	Tyr	Thr	Tyr	Ser	Val	Pro	Arg	Trp	Val	Asn	Ser	Tyr	Leu				
					645				650						655					
	Thr	His	Gln	His	Phe	Ser	Ser	Asp	Phe	Ile	Asn	Ala	Leu	Glu	Ala	Phe				
				660					665					670						
40	Lys	Asn	Ile	Arg	Gly	Leu	Glu	Asn	Leu	Lys	Glu	Cys	Ser	Ser	Asp	Thr				
			675					680					685							
	Cys	Lys	Ile	Glu	Lys	Ile	Arg	Thr	Ile	Asp	Asp	Asp	Leu	Ile	Lys	Glu				
		690				695						700								
45																				

	Glu	Lys	Lys	Glu	Glu	Glu	Lys	Glu	Glu	Asp	Thr	Asp	Gly	Lys	Val	Gln
			835					840					845			
	Pro	Pro	Pro	Ala	Ala	Thr	Thr	Pro	Gly	Val	Lys	Pro	Pro	Cys	Asp	Ile
		850					855					860				
5	Val	Glu	Lys	His	Phe	Lys	Asp	Lys	His	Asp	Asn	Thr	Gly	Ala	Ile	Asp
	865					870					875					880
	His	Cys	Asn	Pro	Lys	Lys	Asp	Tyr	Pro	Pro	Trp	Lys	Asn	Asp	Lys	Ser
					885					890					895	
	Leu	Val	Asp	Glu	Asp	Gly	Val	Tyr	Met	Pro	Pro	Arg	Arg	Gln	Lys	Leu
10				900					905					910		
	Cys	Val	Ile	Asn	Leu	Glu	His	Phe	Lys	Glu	Asn	Thr	Ser	Asp	Asp	Leu
			915					920					925			
	Arg	Glu	Ala	Phe	Ile	Lys	Cys	Ala	Ala	Ala	Glu	Thr	Tyr	Leu	Leu	Trp
		930					935					940				
15	Gln	Lys	Tyr	Lys	Glu	Asp	Asn	Asn	Gly	Gly	Glu	Asp	Leu	Gln	Asn	Gln
	945					950					955					960
	Leu	Lys	Ser	Gly	Lys	Ile	Pro	Glu	Asp	Phe	Lys	Arg	Gln	Met	Phe	Tyr
				965						970					975	
	Thr	Phe	Gly	Asp	Tyr	Arg	Asp	Phe	Leu	Phe	Gly	Thr	Asp	Ile	Ser	Lys
20				980					985					990		
	Leu	Asn	Lys	His	Thr	Glu	Ala	Val	Lys	Thr	Asn	Ile	Asp	Arg	Ile	Phe
			995					1000					1005			
	Pro	Pro	Thr	Glu	Arg	Thr	Asn	Asp	Thr	Ile	Arg	Lys	Glu	Phe	Trp	Glu
		1010					1015					1020				
25	Lys	Asn	Ala	Glu	Ser	Ile	Trp	Gln	Gly	Met	Leu	Cys	Ala	Leu	Ser	Tyr
	1025					1030					1035					1040
	Asn	Ser	Asn	Asp	Lys	Lys	Met	Asp	Pro	Asp	Val	Gln	Lys	Glu	Leu	Asn
				1045						1050					1055	
	Ser	Thr	Tyr	Asn	Tyr	Asp	Thr	Ile	Lys	Asn	Asn	Leu	Glu	Asp	Phe	Ala
30				1060					1065					1070		
	Asn	Arg	Pro	Gln	Phe	Leu	Arg	Trp	Phe	Ile	Glu	Trp	Ser	Asp	Glu	Phe
			1075					1080					1085			
	Cys	Arg	Glu	Arg	Lys	Lys	Lys	Glu	Glu	Lys	Val	Gly	Ser	Ala	Cys	Lys
		1090					1095					1100				
35	Asn	Asp	Tyr	Glu	Gly	Cys	Ala	Asn	Thr	Lys	Asp	Asn	Gly	Asn	Gly	Asn
	1105					1110					1115					1120
	Cys	Val	Asn	Ala	Cys	Asn	Ala	Tyr	Lys	Lys	Tyr	Ile	Thr	Asp	Lys	Lys
				1125						1130					1135	
	Glu	Gln	Tyr	Glu	Lys	Gln	Ala	Lys	Lys	Phe	Asp	Ile	Asp	Lys	Ser	Gln
40				1140					1145					1150		
	Asn	Lys	Pro	Gly	Tyr	Glu	Asp	Tyr	Ser	Gly	Lys	Lys	Ala	Ser	Glu	Tyr
			1155					1160					1165			
	Leu	Lys	Glu	Lys	Cys	Ile	Asn	Ser	Ser	Cys	Asp	Tyr	Met	Leu	Lys	Leu
		1170					1175					1180				
45	Lys	Asp	Asn	Ser	Asn	Tyr	Trp	Glu	Lys	Pro	His	Thr	Thr	Tyr	Asp	Asp
	1185					1190					1195					1200
	Asn	Ser	Leu	Gln	Asn	Lys	Cys	Ser	Cys	Pro	Leu	Ser	Pro	Cys	Glu	Ile
				1205						1210					1215	
	Val	Asp	Lys	Thr	Leu	Gly	Asp	Lys	Thr	Ser	Lys	Ser	Tyr	Ala	Glu	Gly
50				1220					1225					1230		
	Cys	Lys	Trp	Lys	Tyr	Gly	Lys	Met	Pro	Leu	Gly	Leu	Gly	Trp	Leu	Cys
			1235					1240					1245			
	Asn	Asp	Lys	Glu	Gly	Glu	Lys	Gly	Lys	Glu	Asp	Gly	Leu	Cys	Ile	Pro
		1250					1255					1260				
55	Pro	Arg	Arg	Lys	Arg	Leu	Tyr	Val	Lys	Asp	Leu	Glu	Thr	Phe	Ser	Asp
	1265					1270					1275					1280
	His	Thr	Thr	Val	Gly	Leu	Arg	Glu	Ala	Phe	Ile	Lys	Cys	Ala	Ala	Val
				1285						1290					1295	
	Glu	Thr	Phe	Phe	Ala	Trp	His	Glu	Phe	Thr	Lys	Glu	Lys	Glu	Arg	Glu

		1300		1305		1310	
	Tyr	Lys	Glu	Glu	Lys	Gln	Arg
		1315		1320		1325	
	Asn	Asp	Gln	Ile	Pro	Lys	Asp
5	1330		1335		1340		
	Lys	Asn	Gly	Glu	Ile	His	Glu
	1345		1350		1355		1360
	Leu	Ala	Asp	Tyr	Arg	Asp	Ile
			1365		1370		1375
10	Asn	Asp	Met	Gly	Lys	Val	Lys
			1380		1385		1390
	Ser	Ser	Gly	Lys	Thr	Pro	Thr
			1395		1400		1405
	Trp	Glu	Lys	Asn	Ala	Lys	Asp
15	1410		1415		1420		
	Ser	Tyr	Asp	Thr	Lys	Thr	Lys
	1425		1430		1435		1440
	Leu	Ile	Asp	Pro	Lys	Asn	Ser
			1445		1450		1455
20	Ser	Ser	Asp	Asn	Asn	Thr	Asn
			1460		1465		1470
	Phe	Phe	Arg	Trp	Phe	Gln	Glu
			1475		1480		1485
	Lys	Ile	Lys	Ile	Asp	Lys	Ile
25	1490		1495		1500		
	Arg	Asn	His	Cys	Asp	Gly	Asp
	1505		1510		1515		1520
	Asn	Glu	Asn	Gly	Ser	Phe	Ala
			1525		1530		1535
30	Ser	Cys	Arg	Ser	Tyr	Lys	Thr
			1540		1545		1550
	Lys	Lys	Gln	Glu	Lys	Leu	Tyr
			1555		1560		1565
	Asn	Tyr	Asp	Asn	Ile	Tyr	Asp
35	1570		1575		1580		
	Asp	Tyr	Lys	Ser	Val	Asp	Ser
	1585		1590		1595		1600
	Cys	Cys	Asn	Lys	Asn	Thr	Lys
			1605		1610		1615
40	Glu	Glu	Thr	Phe	Arg	Asn	Ala
			1620		1625		1630
	Gly	Val	Ile	Cys	Asn	Asn	Gly
			1635		1640		1645
	Cys	Asp	Ala	Gln	Glu	Phe	Lys
45	1650		1655		1660		
	Asn	Pro	Asn	Lys	Glu	Val	Asn
	1665		1670		1675		1680
	Lys	Tyr	Pro	Gly	Asp	Leu	Asn
			1685		1690		1695
50	Glu	Gly	Ile	Arg	Glu	Asp	Lys
			1700		1705		1710
	Asp	Ile	Cys	Thr	Pro	Asn	Lys
			1715		1720		1725
	Asn	Ala	Pro	Ile	Arg	Val	Leu
55	1730		1735		1740		
	Lys	Asp	His	Asn	Lys	Ile	Lys
	1745		1750		1755		1760
	Glu	Asn	Arg	Asn	Ile	Cys	Thr
			1765		1770		1775

	Ile	Asp	Lys	Trp	Ile	Glu	Met	Lys	Met	Lys	Glu	Trp	Lys	Ile	Val	Arg	
				1780					1785					1790			
	Asp	Arg	Tyr	Val	Lys	Gln	Tyr	Asn	Val	Ala	Asp	Ser	Val	Val	Tyr	Glu	
			1795					1800					1805				
5	Val	Arg	Arg	Phe	Leu	Glu	Gly	Leu	Gln	Pro	Gln	Asn	Asp	Leu	Glu	Lys	
			1810				1815					1820					
	Val	Lys	Gly	Asp	Val	Asn	Asp	Leu	Arg	Asp	Leu	Glu	Glu	Leu	Ser	Glu	
			1825			1830					1835					1840	
	Cys	Thr	Asn	Thr	Val	Ser	Thr	Glu	Asn	Arg	Lys	Cys	Arg	Lys	Lys	Asp	
10					1845					1850					1855		
	Val	Val	Glu	Ser	Leu	Leu	Asn	Lys	Leu	Lys	Asn	Glu	Ile	Arg	His	Cys	
				1860					1865					1870			
	Lys	Asn	Glu	Arg	Asp	Asp	Ser	Met	Gly	Lys	Glu	Ser	Cys	Lys	Thr	Leu	
			1875					1880					1885				
15	Pro	Glu	Pro	Thr	Asp	Asp	Pro	Gln	Thr	Asp	Ser	Asp	Thr	His	Asp	Thr	
		1890						1895					1900				
	Pro	Asp	Ile	Pro	Pro	Gly	Asp	Val	Ala	Pro	Thr	Phe	Cys	Asn	Val	Pro	
		1905				1910					1915					1920	
	Ala	Asn	Pro	Cys	Gly	Asp	Lys	Ser	Ala	Thr	Asn	Val	Val	Asn	Val	Thr	
20					1925					1930					1935		
	Glu	Val	Ala	Lys	Glu	Met	His	Glu	Glu	Ala	His	Lys	Asp	Met	Leu	Glu	
				1940					1945					1950			
	Arg	Ser	Val	Lys	Lys	Val	Glu	Ser	Lys	Val	Lys	Asp	Ser	Thr	Val	Glu	
			1955					1960					1965				
25	Ser	Val	Leu	Arg	Ala	Asp	Ala	Ser	Lys	Gly	Glu	Tyr	Lys	His	Glu	Gly	
		1970					1975					1980					
	Asn	Pro	Asp	Asp	Leu	Lys	His	Asn	Met	Cys	Asn	Ile	Thr	Lys	Glu	His	
		1985				1990					1995					2000	
	Thr	Asn	Tyr	Gln	Lys	Arg	Gly	Gly	Tyr	Asn	Tyr	Arg	Gly	Pro	Cys	Thr	
30					2005					2010					2015		
	Gly	Lys	Gly	Asn	Gly	Lys	Asp	Thr	Arg	Phe	Val	Ile	Gly	Thr	Ile	Trp	
				2020					2025					2030			
	Lys	Asp	Glu	Asp	Glu	Lys	Asp	Glu	Thr	Ile	Lys	Val	Leu	Leu	Pro	Pro	
			2035					2040					2045				
35	Arg	Arg	Arg	His	Met	Cys	Thr	Ser	Asn	Leu	Glu	Tyr	Leu	Leu	His	Val	
		2050					2055					2060					
	Asn	Lys	Gly	Pro	Leu	Leu	Lys	Val	Glu	Pro	Asp	Lys	Ile	Asn	His	Ser	
		2065				2070					2075					2080	
	Phe	Leu	Gly	Asp	Val	Leu	Leu	Ala	Ala	Lys	Tyr	Glu	Ala	Glu	Phe	Ile	
40					2085					2090					2095		
	Lys	Thr	Asn	Tyr	Thr	Arg	Leu	Asn	Gly	Gln	Asn	Asp	Asn	Gly	Ala	Lys	
				2100					2105					2110			
	Cys	Arg	Ala	Met	Lys	Tyr	Ser	Phe	Ala	Asp	Ile	Gly	Asp	Ile	Ile	Arg	
			2115					2120					2125				
45	Gly	Lys	Asp	Leu	Trp	Gly	Ile	Gln	Asp	Phe	Lys	Asp	Leu	Gln	Thr	Lys	
		2130					2135					2140					
	Leu	Val	Thr	Ile	Phe	Gly	Lys	Ile	Lys	Glu	Glu	Ile	Pro	Asp	Ile	Lys	
		2145				2150					2155					2160	
	Lys	Lys	Tyr	Ser	Ser	Glu	Asn	Pro	Pro	Tyr	Thr	Thr	Leu	Arg	Glu	His	
50					2165					2170					2175		
	Trp	Trp	Glu	Ala	Asn	Arg	Ala	Lys	Val	Trp	Glu	Ala	Met	Gln	Cys	Pro	
				2180					2185					2190			
	Thr	Ile	Pro	Pro	Val	Thr	Thr	Ser	Cys	Asp	Thr	Thr	Thr	Val	Thr	Pro	
			2195					2200						2205			
55	Leu	Val	Asp	Tyr	Ile	Pro	Gln	Arg	Leu	Arg	Trp	Met	Thr	Glu	Trp	Ala	
		2210					2215					2220					
	Glu	Trp	Phe	Cys	Lys	Met	Gln	Ser	Gln	Glu	Tyr	Glu	Val	Leu	Val	Lys	
		2225				2230					2235					2240	
	Gln	Cys	Arg	Asn	Cys	Arg	Ser	Gly	Ile	Cys	Glu	Asn	Gly	Lys	Asp	Asp	

				2245					2250				2255
	Cys	Val	Lys	Cys	Thr	Gln	Ala	Cys	Asn	Thr	Tyr	Lys	Gln
				2260					2265				2270
5	Lys	Trp	Glu	Asp	Gln	Trp	Lys	Glu	Ile	Ser	Lys	Lys	Tyr
			2275					2280				2285	
	Tyr	Gln	Gln	Ala	Lys	Gly	Ser	Val	Asn	Gly	Ala	Thr	Thr
			2290				2295				2300		
	Thr	Asp	Glu	Lys	Asp	Lys	Asp	Val	Val	Asp	Phe	Leu	Lys
	2305				2310					2315		Met	Leu
10	Gln	Lys	Asn	Thr	Asp	Asn	Thr	Ile	Tyr	Thr	Thr	Ala	Ala
				2325						2330			2335
	His	Gln	Glu	Ala	His	Met	Thr	Asp	Cys	Gln	Lys	Gln	Thr
			2340					2345				2350	
15	Lys	Asn	Thr	Ser	Tyr	Asn	Asp	Lys	Lys	Lys	Tyr	Ala	Phe
			2355				2360					2365	
	Pro	His	Asp	His	Asp	Asp	Ala	Cys	Ala	Cys	Arg	Pro	Pro
			2370				2375				2380		
	Val	Asp	Val	Ser	Arg	Lys	Leu	Asp	Thr	Gln	Arg	Asp	Pro
	2385				2390					2395		Lys	Lys
20	Glu	Ser	Glu	Pro	Glu	Ser	Glu	Glu	Glu	Glu	Asp	Asp	Ala
				2405						2410			2415
	Glu	Glu	Pro	Ala	Lys	Glu	Thr	Ala	Thr	Thr	Glu	Thr	Thr
			2420					2425				2430	
25	Ala	Pro	Ala	Gly	Pro	Pro	Val	Thr	Pro	Val	Pro	Glu	Leu
			2435					2440				2445	
	Pro	Ala	Pro	Ala	Gly	Pro	Ala	Ala	Asp	Gly	Pro	Ile	Glu
			2450				2455				2460		
	Asp	Ala	Glu	Asn	Glu	Asp	Asp	Asp	Asp	Val	Gly	Ser	Ala
	2465				2470					2475		Thr	Gly
30	Glu	Asp	Asp	Asp	Asp	Asp	Glu	Asp	Asp	Asp	Asp	Glu	Asp
				2485						2490			2495
	Ser	Ala	Asp	Glu	Gly	Glu	Gly	Glu	Gly	Asp	Gly	Gly	Asp
			2500					2505				2510	
	Glu	Glu	Asp	Glu	Asp	His	Gly	Gly	Gln	Glu	Ala	Glu	Gly
35			2515				2520					2525	
	Gln	Pro	Ala	Ala	Pro	Gln	Pro	Pro	Thr	Pro	Gln	Leu	Leu
			2530				2535					2540	
	Leu	Leu	Lys	Thr	Ala	Leu	Met	Ser	Ser	Thr	Ile	Leu	Trp
	2545				2550					2555			2560
40	Ile	Gly	Phe	Ala	Ala	Leu	Thr	Tyr	Phe	Leu	Leu	Lys	Lys
				2565						2570			2575
	Ser	Ser	Val	Asp	Leu	Leu	Arg	Val	Leu	Asn	Ile	Pro	Lys
			2580					2585				2590	
	Glu	Met	Pro	Thr	Leu	Lys	Ser	Lys	Asn	Arg	Tyr	Ile	Pro
45			2595					2600				2605	
	Gly	Ser	Tyr	Lys	Gly	Lys	Thr	Tyr	Ile	Tyr	Met	Glu	Gly
			2610				2615				2620		
	Ser	Gly	His	Tyr	Tyr	Glu	Asp	Thr	Thr	Asp	Ile	Thr	Ser
	2625				2630					2635			2640
50	Glu	Tyr	Glu	Glu	Leu	Asp	Ile	Asn	Glu	Ile	Tyr	Pro	Tyr
				2645						2650			2655
	Lys	Tyr	Lys	Thr	Leu	Ile	Glu	Val	Val	Leu	Glu	Pro	Ser
			2660					2665				2670	
	Gly	Asn	Thr	Pro	Ser	Lys	Gly	Asp	Gly	Asn	Thr	Leu	Gly
55			2675				2680					2685	
	Val	Pro	Thr	Thr	Asn	Thr	Phe	Thr	Asp	Glu	Glu	Trp	Ser
			2690				2695					2700	
	His	Asp	Phe	Ile	Ser	Gln	Tyr	Ile	Gln	Ser	Glu	Pro	Leu
	2705				2710					2715			2720

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Lys Val Gly Val Ser Lys Glu Leu Pro Met Asn Ile Gly Gly Asn Val
 2725 2730 2735
 Leu Asp Asp Gly Ile Asn Glu Lys Pro Phe Ile Thr Ser Ile His Asp
 2740 2745 2750
 5 Arg Asp Leu Tyr Thr Gly Glu Glu Ile Lys Tyr Asn Ile Asn Met Gly
 2755 2760 2765
 Thr Asn Ser Met Asp Asp Pro Thr Tyr Val Ser Asn Asn Val Tyr Ser
 2770 2775 2780
 Gly Ile Asp Leu Ile Asn Asp Thr Leu Ser Gly Asn Gln His Ile Asp
 10 2785 2790 2795 2800
 Ile Tyr Asp Glu Val Leu Lys Arg Lys Glu Asn Glu Leu Phe Gly Thr
 2805 2810 2815
 Asn Tyr Lys Lys Asn Thr Ser Asn Asn Asn Val Ala Lys Leu Thr Asn
 2820 2825 2830
 15 Ser Asp Pro Ile Met Asn Gln Leu Asp Leu Leu His Thr Trp Leu Asp
 2835 2840 2845
 Arg His Arg Asp Met Cys Glu Lys Trp Asn Lys Lys Glu Glu Leu Leu
 2850 2855 2860
 Asp Lys Leu Asn Glu Gln Trp Asn Lys Asp Asn Asp Gly Gly Asp Ile
 20 2865 2870 2875 2880
 Pro Asn Asp Asn Lys Lys Leu Asn Thr Asp Val Ser Ile Gln Ile Asp
 2885 2890 2895
 Ile Asp Glu Asn Lys Gly Lys Lys Glu Phe Ser Asn Met Asp Thr Asn
 2900 2905 2910
 25 Val Asp Thr Pro Thr Met Asp Ser Ile Leu Asp Asp Leu Glu Thr Tyr
 2915 2920 2925
 Asn Glu Pro Phe Tyr Asp Ile Phe Glu Asp Asp Val Tyr Tyr Asp Val
 2930 2935 2940
 Tyr Asp Glu Asn Pro Phe Val Asp Asp Ile Pro Met Asp His Asn Lys
 30 2945 2950 2955 2960
 Val Asp Val Pro Lys Lys Val His Ile Glu Met Lys Ile Leu Asn Asn
 2965 2970 2975
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		450					455					460					
	Tyr	Cys	Lys	Ser	Cys	Pro	Ile	Thr	Asp	Ile	Leu	Cys	Asp	Asp	Asn	Glu	
50	465					470					475					480	
	Cys	Lys	Thr	Ile	Asn	Glu	Phe	Lys	Cys	Arg	Glu	Ile	Lys	Ser	Met	Pro	
					485					490					495		
	Asn	Ile	Arg	Lys	Asn	Glu	Asn	Glu	Thr	Pro	Ile	Asp	Ile	Asp	Ile	Leu	
				500					505					510			
55	Val	Asn	Val	Asn	Asn	Lys	Lys	Val	Ile	Thr	His	Asp	Leu	Lys	Asn	Asn	
			515					520					525				
	Tyr	Glu	Asn	Cys	Asp	Leu	Phe	Lys	Lys	Leu	Gly	Glu	Gln	Lys	Trp	Lys	
		530					535					540					
	Cys	Lys	Tyr	Lys	Cys	Tyr	Leu	Asp	Val	Cys	Glu	Pro	Arg	Asn	Leu	Asp	

	545		550		555		560
	Ser Asn Ile Tyr Asn Glu Arg Tyr Ile Ser Ile Lys Val Leu Phe Lys						
		565		570		575	
	Arg Trp Leu Glu Tyr Phe Leu Glu Asp Tyr Asn Lys Leu Lys Glu Lys						
5		580		585		590	
	Leu Asn Pro Cys Met Tyr Asn Val Gln Glu Ile Val Cys Ile Asn Glu						
		595		600		605	
	Cys Lys Gln Asn Cys Glu Cys Val Glu Lys Trp Ile Lys Glu Lys Arg						
		610		615		620	
10	Glu Glu Trp Lys Lys Ile Lys Asp Arg Tyr Val Gln Gln Tyr Glu Ser						
		625		630		635	
	Lys Asp Glu Asp Val Ser Ser Lys Leu Lys Lys Phe Leu Lys Gln Glu						
		645		650		655	
	Leu Phe Thr Asn Tyr Val Lys Asn Ala Leu Asp Lys Asp Glu Thr Leu						
15		660		665		670	
	Asp Ser Met Lys Glu Ser Thr Glu Cys Ile Asp Pro Asn Lys Pro Lys						
		675		680		685	
	Gly Lys Pro Cys Asn Asn Asn Asp Val Ile Asn Ile Leu Leu Asn Arg						
		690		695		700	
20	Leu Glu Lys Gln Ile Asp Asn Cys Lys Lys Lys His Glu Glu Lys Gly						
		705		710		715	
	Glu Lys Pro Cys Val Asp Ile Pro Lys Leu Leu Asn Asp Glu Asp Glu						
		725		730		735	
	Asp Glu Asp Asp Asp Glu Thr Pro Arg Ala His Asn Pro Cys Val Asp						
25		740		745		750	
	Lys Asn Asp Ser Gln Pro Thr Lys Thr Val Ser Tyr Ile Ala Arg Gln						
		755		760		765	
	Met His Arg Arg Ala Lys Ala Gln Met Thr Lys Asn Ser Val Val Asp						
		770		775		780	
30	Gly Asp Asn Lys Leu Glu Gly Asp Ile Phe Lys Val Thr Phe Arg Asn						
		785		790		795	
	Gly Gly Val Gly Lys Asn Leu Asn Gly Asp Ile Cys Lys Ile Asp Lys						
		805		810		815	
	Thr Tyr Ser Asn Asp Ser Arg Gly Thr Pro Thr Asp Gly Pro Cys Glu						
35		820		825		830	
	Gly Lys Gly Asp Arg Phe Lys Ile Gly Thr Asp Trp Gln Gly Asp Ser						
		835		840		845	
	Phe Val Asn Pro Gln Tyr Arg Gly Ile Tyr Met Pro Pro Arg Arg Gln						
		850		855		860	
40	His Phe Cys Thr Ser Asn Leu Glu Lys Leu Asp Val Ser Arg Val Ile						
		865		870		875	
	Arg Asn Gly Asn Ala Ser Asn Ser Leu Leu Gly Asp Val Leu Leu Ala						
		885		890		895	
	Ala Lys Tyr Glu Ala Glu Arg Thr Lys Asn His Tyr Val Ser Lys Lys						
45		900		905		910	
	Glu Glu His Ser Glu Ala Cys Arg Ala Val Arg Tyr Ser Phe Ala Asp						
		915		920		925	
	Leu Gly Asp Ile Ile Arg Gly Lys Asp Met Trp Asp Lys Asn His Gly						
		930		935		940	
50	Glu Lys Lys Thr Gln Glu Asn Leu Glu Arg Ile Phe Ala Lys Ile Lys						
		945		950		955	
	Glu Gln Leu Leu Asn Ser Ser Ile Lys Asp Lys Tyr Lys Asp Asp Asp						
		965		970		975	
	Lys Ala Thr Pro Lys Tyr Lys Gln Leu Arg Glu Asp Trp Trp Glu Ala						
55		980		985		990	
	Asn Arg Ser Gln Val Trp Glu Ala Met Gln Cys Pro Pro Lys Asn Gly						
		995		1000		1005	
	Thr Phe Pro Cys Lys Ser Asp His Thr Pro Leu His Asp Tyr Ile Pro						
		1010		1015		1020	

	Gln	Arg	Leu	Arg	Trp	Met	Thr	Glu	Trp	Ala	Glu	Trp	Tyr	Cys	Lys	Glu	
	1025					1030					1035					1040	
	Gln	Ser	Arg	Leu	Tyr	Gly	Glu	Leu	Val	Glu	Thr	Cys	Gly	Lys	Cys	Met	
					1045					1050					1055		
5	His	Lys	Gly	Lys	Cys	Lys	Gln	Gly	Asn	Gly	His	Cys	Val	Thr	Cys	Lys	
				1060					1065					1070			
	Pro	Ala	Cys	Glu	Lys	Tyr	Lys	Lys	Phe	Ile	Asn	Thr	Trp	Gln	Pro	Gln	
			1075					1080					1085				
	Trp	Lys	Gln	Met	Glu	Gln	Lys	Tyr	Ser	Gln	Leu	Tyr	Glu	Glu	Ala	Lys	
10		1090					1095					1100					
	Lys	Tyr	Asn	Asp	Ser	Ser	Arg	Lys	Asp	Thr	Thr	Asn	Lys	Asp	Asp	Tyr	
	1105					1110					1115					1120	
	Val	Leu	Gln	Phe	Leu	Asn	Lys	Leu	Leu	Thr	Gln	Asn	Lys	Gly	Asn	Lys	
				1125						1130					1135		
15	Thr	Tyr	Asp	Thr	Ala	Glu	Gly	Tyr	Val	His	Gln	Glu	Ala	His	Ile	Ser	
				1140					1145					1150			
	Asp	Cys	Gln	Lys	Gln	Thr	Gln	Phe	Cys	Lys	Lys	Arg	Asn	Gly	Glu	Ile	
		1155					1160					1165					
	Pro	Ser	Ser	Asp	Thr	Glu	Thr	Asp	Asn	Asn	Tyr	Ala	Phe	Arg	Pro	Gln	
20		1170					1175					1180					
	Pro	His	Asp	His	Asp	Glu	Val	Cys	Glu	Cys	Asn	Thr	Arg	Gln	Lys	Thr	
	1185				1190					1195					1200		
	Lys	Val	Arg	Lys	Lys	Lys	Lys	Lys	Val	Asp	Ala	Cys	Glu	Met	Ala	Lys	
				1205					1210					1215			
25	Thr	Leu	Leu	His	Asn	Asn	Asp	Gly	Thr	Ile	Arg	Ile	Gly	Gln	Cys	Lys	
				1220					1225					1230			
	Arg	Lys	Asp	Glu	Gly	Asn	Ala	Glu	Tyr	Pro	Lys	Trp	Asp	Cys	Asn	Ser	
		1235					1240						1245				
	Gln	Ile	His	Thr	Thr	His	Asn	Gly	Ala	Cys	Met	Pro	Pro	Arg	Arg	Gln	
30		1250					1255					1260					
	Lys	Leu	Cys	Val	Tyr	Phe	Phe	Ala	Asn	Pro	Ser	Gln	Ile	Gly	Ser	Ile	
	1265				1270					1275					1280		
	Asn	Lys	Gln	Asp	Asn	Leu	Arg	Lys	Ala	Phe	Ile	Ile	Ser	Ala	Ala	Ala	
				1285					1290					1295			
35	Glu	Thr	Phe	Arg	Ser	Trp	Gln	Tyr	Tyr	Lys	Ser	Lys	Asn	Gly	Gly	Glu	
			1300					1305					1310				
	Asn	Leu	Gln	Thr	Gln	Leu	Lys	Asp	Gly	Thr	Ile	Pro	Asp	Asp	Phe	Lys	
		1315					1320					1325					
	Arg	Gln	Met	Phe	Tyr	Thr	Tyr	Gly	Asp	Tyr	Arg	Asp	Phe	Leu	Phe	Gly	
40		1330					1335					1340					
	Thr	Asp	Ile	Ser	Lys	Gly	Leu	Gly	Glu	Gly	Thr	Ala	Leu	Glu	Lys	Gln	
	1345				1350					1355					1360		
	Ile	Asn	Ile	Leu	Phe	Pro	Asn	Gly	Val	Arg	Lys	Ile	Pro	Asn	Glu	Lys	
				1365					1370					1375			
45	Thr	Arg	Glu	Lys	Trp	Trp	Thr	Asp	His	Gly	Pro	Glu	Ile	Trp	Lys	Gly	
			1380					1385					1390				
	Met	Leu	Cys	Ala	Leu	Thr	Asn	Gly	Leu	Ser	Glu	Ser	Glu	Lys	Lys	Thr	
		1395					1400					1405					
	Lys	Ile	Phe	Asp	Asp	Tyr	Ser	His	Asp	Lys	Val	Asn	Gln	Ser	Lys	Asn	
50		1410					1415					1420					
	Gly	Asn	Pro	Ser	Leu	Glu	Asp	Phe	Ala	Lys	Lys	Pro	Gln	Phe	Phe	Arg	
	1425				1430					1435					1440		
	Trp	Phe	Ile	Glu	Trp	Ser	Asp	Glu	Phe	Cys	Arg	Glu	Arg	Lys	Lys	Lys	
				1445					1450					1455			
55	Glu	Glu	Glu	Val	Glu	Arg	Asp	Cys	Lys	Asp	Glu	Tyr	Glu	Gly	Cys	Glu	
			1460					1465					1470				
	Lys	Glu	Lys	Asn	Gly	Lys	Cys	Val	Thr	Ala	Cys	Lys	Ala	Tyr	Lys	Glu	
		1475					1480					1485					
	Tyr	Ile	Thr	Asn	Lys	Lys	Glu	Glu	Tyr	Asp	Ser	Gln	Lys	Gly	Lys	Phe	

	1490		1495		1500
	Asp Val Glu Lys Thr Glu Lys Lys Gln Gly Tyr Glu Asp Tyr Ser Glu				
	1505		1510		1515
	Lys Gln Ala Ser Glu Tyr Leu Lys Glu Lys Cys Ile Lys Ser Ser Cys				1520
5		1525		1530	1535
	Asn Cys Met Lys Lys Val Thr Glu Ile Ser Asn Tyr Trp Thr Asn Pro				
		1540		1545	1550
	His Lys Thr Tyr Asp Thr Glu Asn Leu Gly Ile Lys Cys Glu Cys Pro				
		1555		1560	1565
10	Pro Ser Pro Cys Thr Ile Val Asp Gly Ile Leu Ser Pro Gln Asn Ser				
		1570		1575	1580
	Ser Ser Tyr Ala Glu Gly Cys Lys Trp Lys Tyr Gly Lys Met Ser Gln				1600
		1585		1590	1595
	Gly Gly Thr Glu Trp Asp Cys Ser Lys Lys Ser Gly Gly Glu Gly Gly				
15		1605		1610	1615
	Asn Glu Asp Gly Asp Val Val Cys Ile Pro Pro Arg Arg Arg Arg Leu				
		1620		1625	1630
	Tyr Val Lys Asn Leu Gln Asp Leu Thr Gly Glu Glu Ser Leu Val Asp				
		1635		1640	1645
20	Leu Arg Lys Ala Phe Ile Lys Cys Ala Ala Ile Glu Thr Phe Phe Ala				
		1650		1655	1660
	Trp His Glu Phe Lys Lys Glu Lys Glu Arg Glu Glu Lys Glu Lys Asn				1680
		1665		1670	1675
	Glu Gln Asp Val Gln Tyr Lys Ser Ser Val Leu Glu Asn Leu Gln Lys				
25		1685		1690	1695
	Gln Leu Lys Asn Gly Glu Ile Asp Asp Glu Phe Lys Arg Gln Met Phe				
		1700		1705	1710
	Tyr Thr Phe Ala Asp Tyr Arg Asp Ile Cys Leu Gly Lys Asp Ile Gly				
		1715		1720	1725
30	Asn Asp Val Asp Gly Ile Asn Glu Lys Ile Asp Thr Ile Leu Gln Lys				
		1730		1735	1740
	Asn Gly Lys Pro Asn Asn Ile Glu Glu Tyr Lys Lys Trp Trp Gln Lys				1760
		1745		1750	1755
	His Gly His Glu Ile Trp Glu Gly Met Leu Cys Ala Leu Ser Tyr Asn				
35		1765		1770	1775
	Thr Glu Thr Lys Glu Met Asp Lys Glu Leu Arg Asn Lys Leu Thr Glu				
		1780		1785	1790
	Gln Lys Asn Gly Asn Lys Asn Thr Tyr Asp Thr Val Thr Ile Ser Gly				
		1795		1800	1805
40	Gly Pro Ile Gly Asn Thr Lys Leu Glu Lys Phe Ala Ser Arg Pro Pro				
		1810		1815	1820
	Phe Phe Arg Trp Leu Glu Glu Trp Ala Asp Glu Phe Cys Arg Lys Arg				1840
		1825		1830	1835
	Thr His Lys Leu Glu Lys Ile Gln Asn Glu Cys Lys Gly Val Ser Gly				
45		1845		1850	1855
	Thr Asn Gln Cys Asp Asp Asp Gly Phe Asp Cys Asp Glu Met Cys Pro				
		1860		1865	1870
	Lys Lys Asp Gly Ser Phe Glu Thr Phe Lys Cys Leu Ser Cys Ala Lys				1885
		1875		1880	1885
50	Ser Cys Arg Phe Tyr Lys Lys Trp Ile Ser Arg Lys Lys Glu Glu Phe				
		1890		1895	1900
	Asp Lys Gln Ser Lys Lys Tyr Glu Asn Glu Ile Asp Asp Val Lys His				1920
		1905		1910	1915
	Asn Ser Asp Asn Ile Tyr Gly Lys Asp Phe Leu Glu Thr Leu Asp Gln				
55		1925		1930	1935
	Gln Tyr Lys Ser Val Glu Leu Phe Leu Glu Lys Val Lys Gly Pro Cys				
		1940		1945	1950
	Ser Ile Asn Asn Asn Asn Glu Glu Cys Lys Ile Asp Phe Asn Lys Pro				
		1955		1960	1965

Lys Asp Thr Phe Gly His Ala Lys Asn Cys Gly Pro Cys Ser Glu Ile
 1970 1975 1980
 Arg Phe Lys Cys Ile Glu Asp Asn Ser Asn Trp Val Thr Thr Asn Thr
 1985 1990 1995 2000
 5 Cys Asn Lys Thr Thr Phe Lys Phe Thr Glu Asp Asn Lys Asp Thr Lys
 2005 2010 2015
 Glu Asp Ser Glu Gln Leu Gly Met Leu Ile Ser Asp Asn Thr Val Gln
 2020 2025 2030
 Asn Phe Ala Asp Gly Leu Gln Asn Asp Cys Lys Asp Ala Asp Ile Phe
 10 2035 2040 2045
 Lys Gly Leu Arg Lys Asp Gln Trp Ser Cys Gly Tyr Phe Cys Asn Leu
 2050 2055 2060
 Asp Ile Cys Ser Leu Lys Thr Ser His Gly Glu Asn Asn Tyr Lys Gln
 2065 2070 2075 2080
 15 Asn Ile Leu Ile Arg Ala Leu Phe Lys Arg Trp Leu Glu His Phe Leu
 2085 2090 2095
 Glu Asp Tyr Asn Lys Ile Asn Asp Lys Ile Ser His Cys Met Lys Asn
 2100 2105 2110
 Gly Glu Gly Ser Thr Cys Ile Lys Gly Cys Glu Ile Lys Cys Asn Cys
 20 2115 2120 2125
 Val Ser Asn Trp Ile Lys Lys Lys Thr Leu Glu Trp Glu Ile Val Arg
 2130 2135 2140
 Asp Arg Phe Phe Lys Gln Tyr Asn Val Asp Ser Glu Lys Ser Phe Thr
 2145 2150 2155 2160
 25 Val Lys Ser Phe Leu Glu Gln Ala Pro Phe Asp Ser Asp Val Gln Lys
 2165 2170 2175
 Ala Ile Lys Pro Phe Glu Lys Leu Arg Asp Phe Glu Asp Ser Ile Val
 2180 2185 2190
 Cys Asn Gly Thr Thr Ser Ala Arg Lys Glu Lys Gly Thr Glu Lys Asp
 30 2195 2200 2205
 Val Val Ile Cys Leu Leu Asp Lys Leu Gln Lys Gln Ile Glu Thr Cys
 2210 2215 2220
 Gln Thr Lys His Lys Glu Thr Ser Gly Asn Thr Cys Ser Pro Pro Pro
 2225 2230 2235 2240
 35 Asn Pro Asp Thr Gln Thr Asp Thr Pro Leu Pro Leu Glu Ser Phe Pro
 2245 2250 2255
 Pro Pro Phe Cys Asn Val Pro Pro Asn Pro Cys Gly Asp Lys Asp Ala
 2260 2265 2270
 Thr Asn Val Val Gly Val Glu Val Leu Ala Lys Glu Met Gln Glu Ala
 40 2275 2280 2285
 Ala His Lys Ser Met Leu Ser Arg Ser Ala Val Asp Ser Gly Lys Gly
 2290 2295 2300
 Asp Lys Gly Glu Ser Ser Ser Gly Lys Ser Ser Leu Glu Gly Asp Ile
 2305 2310 2315 2320
 45 Ser Leu Ala Glu Phe Lys Asn Gly Phe Asn Pro Ser Gly Leu Lys Asn
 2325 2330 2335
 Val Cys Gln Ile Thr Glu Lys His Ser Tyr Ala Asn Gly Ala Ser Lys
 2340 2345 2350
 Asp Pro Cys Asn Gly Lys Gly Asn Gly Lys Asp Gln Arg Phe Lys Ile
 50 2355 2360 2365
 Glu Thr Gln Trp Lys Asp Thr Gly Lys Ser Gly Lys His Val Asp Val
 2370 2375 2380
 Tyr Leu Pro Pro Arg Arg Glu His Ile Cys Thr Ser Asn Leu Glu Tyr
 2385 2390 2395 2400
 55 Leu Leu Lys Gly Asn Ser Asp Gln Ile Met Lys Val Gly Asn Asn Lys
 2405 2410 2415
 Ile Asn His Ser Phe Leu Gly Glu Val Leu Leu Ala Ala Lys Tyr Glu
 2420 2425 2430
 Ala Glu Phe Ile Lys Thr Asn Tyr Thr Arg Leu Asn Gly Gln Asn Asp

	2435		2440		2445
	Asn Gly Ala Lys Cys Arg	Ala Met Lys Tyr Ser	Phe Ala Asp Ile Gly		
	2450	2455	2460		
	Asp Ile Val Arg Gly Arg	Asp Leu Trp Glu His	Asn Asp Phe Lys Lys		
5	2465	2470	2475	2480	
	Leu Glu Arg Asp Leu Val	Lys Ile Phe Gly Lys	Ile Lys Glu Gly Ile		
	2485	2490	2495		
	Thr Asp Glu Thr Thr	Lys Lys Gln Tyr Glu	Lys Asp Asp Thr Asp	Asn	
	2500	2505	2510		
10	Lys Gln Leu Arg Cys Asp	Trp Trp Glu Ala Asn	Arg Asp Gln Val Trp		
	2515	2520	2525		
	Glu Ala Met Gln Cys Lys	Thr Thr Ile Pro Pro	Val Thr Thr Ser Cys		
	2530	2535	2540		
	Asp Thr Thr Thr Val	Thr Pro Leu Val Asp	Tyr Ile Pro Gln Arg	Leu	
15	2545	2550	2555	2560	
	Arg Trp Met Met Glu	Trp Ala Glu Trp Tyr	Cys Lys Tyr Gln Ser	Lys	
	2565	2570	2575		
	Ala Tyr Ser Glu Leu	Arg Lys Gly Cys Glu	Asp Cys Arg Ser Trp	Lys	
	2580	2585	2590		
20	Cys Met Lys Gly Asp	Ser Lys Cys Glu Asn	Cys Thr Lys Ala Cys	Lys	
	2595	2600	2605		
	Asp Tyr Asn Ser Lys	Ile Glu Pro Trp Lys	Gln Gln Trp Thr Lys	Ile	
	2610	2615	2620		
	Lys Glu Lys Tyr Glu	Glu Leu Tyr Lys Lys	Ala Gln Asn Ser Asp	Thr	
25	2625	2630	2635	2640	
	Ser Asn Ser Gly Thr	Thr Tyr Pro Lys Asp	Glu Lys Asp Val Val	Ser	
	2645	2650	2655		
	Phe Leu Ser Lys Leu	His Glu Lys Asn Lys	Asp Asn Lys Ile Tyr	Tyr	
	2660	2665	2670		
30	Thr Ala Ala Gly Tyr	Ile His Gln Gln Ala	Lys Tyr Leu Asp Cys	Thr	
	2675	2680	2685		
	Gln Gln Thr His Phe	Cys Asp Lys Lys Asn	Gly Glu Thr Leu Pro	Ser	
	2690	2695	2700		
	Gly Arg Asp Asn Asp	Lys Tyr Ala Phe Lys	Lys Pro Pro Lys Lys	Tyr	
35	2705	2710	2715	2720	
	Glu Arg Ala Cys Lys	Cys His Glu Lys Gln	Glu Pro Pro Pro Pro	Lys	
	2725	2730	2735		
	Val Pro Glu Asp Ser	Glu Asp Asp Arg Glu	Arg Ser Glu Pro Gly	Glu	
	2740	2745	2750		
40	Asp Ala Leu Pro Val	Leu Pro Pro Glu Glu	Ile Glu Gln Glu Glu	Glu	
	2755	2760	2765		
	Pro Glu Glu Thr Ser	Val Asp Thr Thr Gln	Asp Glu Glu Glu Pro	Ala	
	2770	2775	2780		
	Ser Glu Gly Gly Gly	Pro Ser Gly Ser Pro	Thr Glu Glu Ser Gly	Glu	
45	2785	2790	2795	2800	
	Pro Arg Glu Asn Ser	Asp Ser Ser Asp Pro	Lys Pro Asp Gln Asn	Pro	
	2805	2810	2815		
	Glu Ala Asn Pro Glu	Gln Thr Pro Ile Leu	Lys Pro Glu Glu Glu	Ala	
	2820	2825	2830		
50	Pro Pro Lys Ser Lys	Pro Pro Asp Gly Asp	Arg Gly Val Gly Arg	Ser	
	2835	2840	2845		
	Leu Gly Pro Thr Pro	Arg Ser Glu Val Glu	Pro Glu Glu Ser Glu	Asn	
	2850	2855	2860		
	Glu Asp Val Glu Asp	Glu Asp Asp Glu Glu	Glu Glu Asp Pro Asp		
55	2865	2870	2875	2880	
	Asp Asp Pro Glu Ala	Ser Glu Glu Glu Asp	Glu Asp His Gly Gly		
	2885	2890	2895		
	Gln Glu Ala Glu Ala	Val Pro Pro Gln Pro	Gln Ala Pro Ala Pro	Leu	
	2900	2905	2910		

Pro Pro Pro Pro Pro Pro Leu Pro Pro Leu Lys Thr Ala Leu Met Ser
 2915 2920 2925
 Ser Thr Ile Met Trp Ser Val Gly Ile Gly Phe Ala Ala Ile Ser Tyr
 2930 2935 2940
 5 Phe Leu Leu Lys Lys Lys Pro Lys Ser Pro Val Asp Leu Ile Arg Val
 2945 2950 2955 2960
 Ile Asp Ile His Lys Gly Asp Tyr Gly Ile Pro Thr Leu Glu Ser Lys
 2965 2970 2975
 Asn Arg Tyr Ile Pro Tyr Val Ser Asp Thr Tyr Lys Gly Lys Thr Tyr
 10 2980 2985 2990
 Ile Tyr Met Glu Gly Asp Thr Ser Gly Asp Glu Lys Tyr Gly Phe Met
 2995 3000 3005
 Ser Asp Thr Thr Asp Ile Thr Ser Ser Glu Ser Glu Tyr Glu Glu Leu
 3010 3015 3020
 15 Asp Ile Asn Asp Ile Tyr Val Pro Gly Ser Pro Lys Tyr Lys Thr Leu
 3025 3030 3035 3040
 Ile Glu Val Val Leu Glu Pro Ser Lys Ser Asn Gly Asn Thr Leu Gly
 3045 3050 3055
 Asp Asp Met Val Pro Thr Thr Asn Thr Phe Thr Asp Glu Glu Trp Asn
 20 3060 3065 3070
 Glu Leu Lys His Asp Phe Ile Ser Gln Tyr Ile Gln Ser Glu Pro Leu
 3075 3080 3085
 Asn Val Pro Gln Tyr Asp Val Leu Lys Glu Leu Pro Met Asn Ile Val
 3090 3095 3100
 25 Gly Asn Val Leu Asp Asp Gly Ile Asn Glu Lys Pro Phe Ile Thr Ser
 3105 3110 3115 3120
 Ile His Asp Arg Asp Leu Asn Ser Gly Glu Glu Ile Ser Tyr Asn Ile
 3125 3130 3135
 Asn Met Ser Thr Asn Ser Met Asp Asp Pro Lys Tyr Val Ser Asn Asn
 30 3140 3145 3150
 Val Tyr Ser Gly Ile Asp Leu Ile Asn Asp Ser Leu Ser Gly Gly Lys
 3155 3160 3165
 Pro Ile Asp Ile Tyr Asp Glu Val Leu Lys Arg Lys Glu Asn Glu Leu
 3170 3175 3180
 35 Phe Gly Thr Asn Tyr Lys Lys Asn Thr Ser Asn Asn Val Ala Lys
 3185 3190 3195 3200
 Leu Thr Asn Ser Asp Pro Ile Met Asn Gln Leu Asp Leu Leu His Lys
 3205 3210 3215
 Trp Leu Asp Arg His Arg Asp Met Cys Glu Met Trp Asn Asn Lys Glu
 40 3220 3225 3230
 Glu Val Leu Asp Lys Leu Lys Glu Gln Trp Asn Lys Asp Asn Asp Gly
 3235 3240 3245
 Gly Asp Ile Ser Ser Asp Ser Asn Lys Arg Leu Asn Thr Asp Val Ser
 3250 3255 3260
 45 Ile Glu Ile Asp Met Asp Asp Pro Lys Gly Lys Lys Glu Phe Ser Asn
 3265 3270 3275 3280
 Met Asp Thr Ile Leu Asp Asn Ile Glu Asp Asp Ile Tyr Tyr Asp Val
 3285 3290 3295
 Asn Asp Glu Asn Pro Ser Val Asn Asp Ile Pro Met Asp His Asn Lys
 50 3300 3305 3310
 Val Asp Val Pro Lys Lys Val His Val Glu Met Lys Ile Leu Asn Asn
 3315 3320 3325
 Thr Ser Thr Gly Ser Leu Glu Gln Gln Phe Pro Ile Ser Asp Val Trp
 3330 3335 3340
 55 Asn Ile
 3345